Uinta Basin Update
January 29, 2015

Most Current Updates

Tribal Business Council Meeting

- We have prepared talking points for a proposed RA/Tribal Advisor visit to the Tribal Business Council to discuss the meaning of pending ozone nonattainment designation, and timelines/responsibilities of the Tribe and EPA to develop an Emission Inventory and attainment demonstration. This meeting may encompass other water, enforcement and land management programs that are active in the Basin.
- Ideally, we would offer concurrent training and capacity development for the Tribal Air Program inspection/compliance staff in the use of I/R camera and the Hi-Flow Sampler as part of the visit. Cindy would like to have a summary of quantified emission reductions that have already been accomplished through NEPA and enforcement actions, so that operators who have already stepped up can be recognized moving forward.

Meeting with the Tribe and Industry to Discuss Voluntary Controls on Existing Sources

- As part of the Ute Tribe's participation in Ozone Advance, we would like to have a meeting to invite industry to commit to voluntary emission controls on the ~9,000 O&G wells currently operating on tribal land. The incentive would be to reduce ozone levels in the lead up to a NAA designation, possibly resulting in a lower classification. If they don't want to do it voluntarily, we could hint that a FIP could be needed. The Jan. 30, 2015 presentation for Janet McCabe includes a R8 slide that asks "Should R8 move forward with a regulatory strategy for existing and new oil and gas sources (eg. U&O-specific FIP) in advance of the national effort?" Without the leverage of a possible source-specific FIP, industry may not want to participate in voluntary reductions.
- Industry would like more certainty and a level playing field. The state is concerned that no matter what they do to control sources on state land, they won't meet their attainment dates without proactive control strategies on tribal land, which has ¾ of the basin's sources.

Emission Inventory

- Region 8 is gearing up to develop an emission inventory (EI) on tribal land for the Uinta Basin's future ozone nonattainment area. We are working closely with the State of Utah to try to develop/define the EI process to ensure that efforts currently underway result in a SIP- and FIP-quality inventory on state and tribal land. DAQ has drafted an EI white paper/protocol at WEA's request that outlines the scope of work, inventory detail needed for specific analyses such as photo chemical modeling, database creation and maintenance requirements. Here is a proposed timeline:

    - Stakeholder meeting at DAQ to review and comment on WEA draft protocol for the Uinta Basin inventory and the Inventory Prep Plan — Jan. 28, 2015
    - Protocol for inventory preparation — April 15, 2015
    - DAQ/WEA scoping meeting for batch upload process to Permit Database EI — May 1, 2015
    - Request for data to oil and gas operators — June 1, 2015
    - Calculation of the area source oil/gas emissions — July 1, 2015
    - Upload of the operator submittals — Oct. 1, 2015

- Compilation of the point and area sources emissions Jan. 1, 2016

- Instead of a written cooperating agreement between DAQ and the Tribe to resolve sovereignty concerns in the sharing of data, we want to move forward with a steering committee of the regulatory agencies. EPA/State/Tribe all agree that a consistent, integrated approach is necessary, and there are benefits to a common database.
- Preston and Minnie have not presented the EI database issue to the Tribal Business Council. However, Preston has said that the Tribal Business Council is on board with the Tribe's participation in the EI process. We are moving forward with informal agreement about who will have access to the data and how the data will be shared with EPA, BLM, WEA, Bingham Research Center, WRAP and other stakeholders, and where the data will be hosted.
- The Ute Tribe is holding elections in the May, 2015 timeframe, and they anticipate getting new council members. A key issue for the State and EPA/Tribe is building trust with the Legislature/Tribal Business Council that we are going to solve the air quality problem while understanding the economic development impact moving forward. We can point to Wyoming UGRB and the Colorado Front Range NAAs as examples where oil and gas development hasn't slowed down because industry/states put controls on existing sources.
- EPA and the tribe would like to use the DAQ's on-line permitting database for tribal permitting and emission inventory data; we are working with DAQ to ensure the database inventory includes all sources, including those with emissions below permit threshold levels, and speciated data. The State and the Tribe/EPA have permitting and registration data for sources over the 5 tpy VOC di minimis levels that can form the basis for EI development.
- DAQ has the authority under its rules to request data from industry. We discussed requesting inventory data in a voluntary approach, but employing EPA's CAA 114 authority as a back up plan to request information if necessary.
- While much of the inventory work so far has had a NEPA and a National Emissions Inventory (NEI) focus, as we shift towards a more regulatory process, we want to ensure that the resultant inventory can be used to develop Reasonable Further Progress plans and/or attainment demonstrations.
- **Next Steps:** Major stakeholders including EPA Region 8, the Utah DAQ, the Ute Indian Tribe, BLM, Western Energy Alliance (WEA), Western Regional Air Partnership and Utah State University met again on January 28th to refine the EI white paper/protocol and discuss the Inventory Prep Plan. WEA hopes to have a draft protocol that shows 80% capture of the emissions. Alexis Gilbert is performing an analysis of a representative sample of the ~5,100 tribal minor source registrations to derive place-based speciation profiles that can be used to derive emission factors. WRAP is using the IHS interdeck database and USGS publications to identify individual well production rates, and field and formation data. The focus is on identifying location and emissions of storage tanks, pneumatic controllers, glycol dehydrators and area sources/de minimis sources (less than 5 tpy VOCs).

Additional Updates/Background

Utah Ozone Advance

- Utah Department of Air Quality enrolled in Ozone Advance on May 21, 2012.
- On Nov. 12th coordination call, DAQ asked EPA for a meeting to discuss preparation for nonattainment designation. How will the TIP/FIP be structured, and how is EPA going to address tribal sources, which make up three-fourths of emissions, and will not be bound by the same timelines as the state? Brock is going to give us a list of questions about the process. I have

a conference call scheduled with OAQPS and the EPA's tribal liaison on Dec. 3rd to discuss EPA's responsibilities under the Tribal Authority Rule.

- Utah DAQ's General Approval Order for Oil and Gas was finalized on June 5, 2014. It covers facilities that process up to 50,000 barrels of crude oil and condensate combined over a rolling 12-month period. Emission controls and equipment specifications limit criteria pollutant and hazardous air pollutant emissions. If a source cannot meet the requirements of the GAO, it must submit a Notice of Intent to obtain an Approval Order.
- Utah's Board adopted four proactive final rules on October 1, 2014 for existing sources. The rules will retrofit oil and gas industry equipment to assist in VOC emission reductions. The four rules include:
  - Equipment must be properly maintained and operated.
  - Accelerates implementation of NSPS standards including replacing high-bleed controllers with low-bleed or no-bleed controllers. Phased, Dec. 2015 for Uintah and Duchesne counties and April 2017 for state-wide.
  - All new flares must be equipped with an automatic igniter; existing flares to be retrofit by Dec. 2015 for Uintah and Duchesne counties and April 2017 for state-wide.
  - Tank Truck Loading required to be bottom filling or submerged pipe filling on tanker trucks by Jan, 2015.

Ute Indian Tribe Ozone Advance

- The Ute Indian Tribe, enrolled in Ozone Advance on July 18, 2013. The Ute Tribe's Air Program is planning to develop an air management plan and an environmental code that is based on the solid waste code in Fort Berthold. We've discussed with the tribe the possibility of developing an ordinance to incorporate the four rules for existing sources that the state adopted on Oct. 1, for tribal sources.
- Other aspects of their Ozone Advance Path Forward may include:
  - Establish an ambient air monitoring program, which will be led by Mike Natchees. As of June 1, they've retained MSI as the third-party monitoring operator for the Redwash and Ouray monitors, and they'll take over Myton and Whiterocks on Oct. 1st.
  - Develop an oil and gas industry compliance, inspection and maintenance program. Region 8's Alexis North has been out there a couple times demonstrating use of the infrared equipment to identify fugitive emissions. They've hired a certified inspector/compliance officer, Ty Navanick, and a new Air Quality Technician, Lonnie Fabel.
  - Establish permitting programs following the Clean Air Act, beginning with prevention of significant deterioration (PSD) and working up to Title V.
  - Develop an emission inventory; since March 2014, they've got nine monitors operating year-round, they'll get their first quarterly data in July and they'll have a full year in March 2015.

Oil and Gas GP/FIP/PBR for Indian Country Schedule

- ANPRM Published -- 06/05/2014
- Options Selection for NPRM Proposal – TBD
- Develop Draft NPRM Package - TBD
- FAR for Proposal – TBD
- OMB Review of Proposal – 60-day review ending TBD
- NPRM Signature – TBD
- Publication of Proposal – TBD
- Develop Draft Final Rule Package (SAN 5727) – TBD
- FAR for Final Rule – TBD

- OMB Review of Final Rule – 60-day review ending TBD
- Signature of Final Rule – 03/01/16

- This rule is likely to be delayed until December, 2016 and there is high uncertainty over whether the options selection would allow the rule to address existing sources. Attainment demonstrations under the revised ozone NAAQS would not be required until the 2019-2021 timeframe, depending on the classification. This is why we are proposing a meeting with the tribe and industry to discuss voluntary controls on existing sources.

Winter Ozone Study

- The Utah Department of Air Quality (UDAQ) released the Winter Ozone Study on March 26, 2014, which identified the oil and gas industry, combined with cold weather inversions, as the prime contributor to the ozone problem in northeastern Utah. In the winter of 2013, ozone levels at one monitoring station in the Uinta Basin reached 142 ppb, about 90% higher than the National Ambient Air Quality Standard NAAQS (75 ppb). Seasonal controls and new rules to reduce pollution from legacy equipment were identified as key mitigation strategies.
- Gail T. is working on response to comments on the 2nd draft of the 2014 UBOS field study report, and a final report should be available in February.

Monitoring

- Snow cover has been sparse and temperatures relatively warm in January 2015; there was light ozone production in the first week of January, with Ouray reaching 67 ppb (8-hour average) on Jan. 7. Without significant snowfall and colder temperatures, this may be a low ozone winter.
- For the area we designated unclassifiable, Utah DEQ's monitor located in Roosevelt has a current 2012-2014 design value of **77** ppb, which is based on a couple of moderately high days in the first week of January 2014, and a few more moderate days in the summer. We anticipate the design value will be certified in May 2015.
- EPA transferred oversight on June 1, 2014 to the Ute Tribe to operate the Ouray and Redwash monitors in the Uinta Basin, and the Tribe began operating the Myton and Whiterocks monitoring stations in October 2014.
- The Tribe received an EPA monitoring grant in late July, 2014; they have submitted an approved Quality Assurance Project Plan to EPA and the stations have begun gathering regulatory data.
- On April 29, 2014, the RA sent a letter to the Ute Tribe's Business Committee members and the Energy and Minerals Department Director, expressing our support for the Ute Indian Tribe's commitment to developing an ambient air monitoring program. Utah has also been providing technical assistance to the Tribe.

Ozone Modeling

- Several groups are working on photochemical air quality modeling for winter ozone episodes, including UDAQ, EPA, NOAA, BLM, Utah State University and University of Utah. NOAA recently published modeling results suggesting that CH4 and total VOC emissions for the oil/gas sector within the Uinta Basin in the 2011 NEI are underestimated by a factor of 4.8 and 1.8, respectively, and that NOx emissions are overestimated. EPA modeling is also biased low for VOC and biased high for NOx, and the EPA model is not able to reproduce observed ozone levels using the 2011 NEI. UDAQ model simulations do reproduce the observed ozone levels, and this might be a result of updates to the VOC emissions or speciation data in the UDAQ inventory. There remains large uncertainty in whether the modeling accurately represents O&G emissions, transport processes, and chemistry within the Uinta Basin. The groups are

collaborating in the analysis of emissions data and model performance with the goal of developing model scenarios that can be used for ozone attainment planning.

Revised Ozone NAAQS Implementation Schedule

- Revised ozone NAAQS proposed on December 1, 2014;
- Finalized October 1, 2015
- State submits recommendations on air quality designations for the revised ozone standard October 1, 2016
- EPA issues final designations in October 2017
- SIP Elements: Areas designated nonattainment have 2 years to submit emission inventories, RACT SIPs and emission statement SIPs; 3 years to submit 15 percent RFP plans and Moderate area attainment demonstrations; and 4 years to submit 3 percent per year RFP plans and attainment demonstrations for Serious and higher areas.

Community Outreach and Capacity Building

- The Tribe is participating in EPA's School Flag program. Region 8 received the five air quality monitors for schools in the Uinta Basin. Four schools backed out of participating in the voluntary monitoring program because their school board would not approve it (concerns that it was EPA, ozone, negative impacts to their economic development). Josh Richard will go over there in February (not scheduled yet because Minnie has to find two more schools to participate. She has two others signed on) to train the high school representatives on how to use the air monitors ORD is donating.
- As part of the tribe's enrollment with Ozone Advance, EPA can offer the Ute Indian Tribe's Air Quality group technical assistance and capacity building through various research efforts. We have discussed assisting with the produced water pond measurement work that is currently underway using EPA's OPSIS, which is a UV open-path spectroscopy instrument that measures benzene, toluene, and xylene. The equipment can be deployed and left for a few months to observe seasonal, diurnal and operational variations.
- We have also discussed conducting a field campaign to collect actual emission data on a sizeable sample size of pneumatic controllers that would serve several purposes: (1) inform emission inventory work underway, (2) develop protocol for use of EPA-R8's Hi-Flow Sampler by compliance staff in the future, (3) build tribal capacity by training environmental staff on use of Hi-Flow and IR camera, and 4) spotlight this emission source to encourage Industry to tackle reductions voluntarily from "existing" sources as well as inform on the impact on emissions from maintenance practices.

Wintertime Ozone and Particulate Matter Health Effects Meeting

- With Utah DAQ, the Ute Tribe and Tri-County Health, Region 8 held a meeting of health and risk communication experts on October 22, 2014 in Ft. Duchesne, Utah. The main purpose of this meeting was to bring together health experts to discuss ongoing research efforts and available health data to allow us to assess potential health risks from air pollution in the Uinta Basin.
- Dr. Lisa McKenzie, from the Colorado School of Public Health, presented on "Health Risks Associated with Development of Unconventional Oil and Gas Resources: Colorado Studies." Dr. Mark Anderson, Associate Professor and Director RMR Pediatric Environment Health Specialty Unit (children's exposure to high levels of ozone) at Denver Health, presented on the "Impacts of Elevated Ozone on Vulnerable Populations: Acute vs. Chronic Exposure." Region 8's Kyle Olson presented on the "Health Effects of Particulate Matter."

- At the meeting, we discussed how this information can be best communicated to the impacted public, and what we can do to support community actions to reduce public exposure to air toxics and reduce air pollutant emissions. Region 8's Jody Ostendorf facilitated a discussion on "Risk Communication and Outreach Strategy."
- Follow-up teleconference meeting was held on Dec. 3rd to discuss a community outreach strategy and how to help with the tribe's evaporation pond study. We have also had follow-up discussions during our monthly State/Tribe/EPA coordination calls. We talked about what the goal of outreach would be, what messages were appropriate, which agencies should take the lead (Tri-County Health has many useful fact sheets, and would be a natural lead). There was concern about unnecessarily alarming people. Minnie met with Melissa Zito and Dr. Richey of the Utah Department of Health and the Tribal Epidemiological Center, respectively, on Friday, Jan. 9 to discuss a grant Dr. Richey received from CDC that might help the tribe.